



**ENGINEERING OPERATIONS COMMITTEE
MEETING MINUTES
FEBRUARY 1, 2001 - 9:00 A.M.
EXECUTIVE CONFERENCE ROOM**

Present:	C. T. Maki	G. D. Taylor	J. D. Culp
	P. F. Miller	J. D. O'Doherty	T. E. Davies
	J. W. Reincke	T. Fudaly	S. Bower
Guests:	T. Myers	C. Libiran	K. Kennedy
	A. Clover	J. Ruszkowski	L. Lynwood
	J. T. LaVoy	B. Dollman-Jersey	

OLD BUSINESS

1. Approval of the Minutes of the December 6, 2000, Meeting - C. T. Maki

Minutes of the December 6, 2000, meeting were approved as written.

NEW BUSINESS

1. Design Division Publication - C. Libiran

A. English Standard Plans Status

All standard plans are being converted back to the English measurement system in accordance with a directive from the State Transportation Commission. The conversion has been completed and is in the formal review process. The converted standards will be used in project plans as "special details" until FHWA approval is obtained and will be posted on the web with the clarification that designs in English may begin only if the project will be let after November 1, 2001.

ACTION: Approved.

B. Bridge Design Manual Chapter 6, Plan Sheet Examples

Chapter 6 of the Bridge Design Manual has been updated to show current examples and to reflect the current state of practice. As new English projects are designed, new examples will be developed for approval and inclusion.

ACTION: Approved putting the updated changes into the manual.

C. Road Design Manual

The index for Chapter 14, Procedures for Plan Preparation, was handed out and reviewed. The entire chapter has been updated to reflect current procedures. It is recommended that the revised chapter be included in the manual. Also noted were minor editorial changes in Chapter 5, Right-of-Way.

ACTION: The changes and additions to the manual are approved.

D. Bridge Design Guides and Freeway Cross Sections

During a Design Recommendation Committee meeting, FHWA pointed out that AASHTO recommends matching bridge width to the approach width. There is an inconsistency between AASHTO and MDOT policy. A number of Bridge Design Guide revisions have been drafted to provide more consistency between bridge widths and roadway approach widths. The revisions also produced corrections and clarifications to the Design Guide for Freeway Cross Sections.

ACTION: The revisions to the Bridge Design Guides are approved.

2. December 2000 Pavement Committee Minutes - S. Bower

The minutes from the December Pavement Committee meeting were reviewed. Item 00-230, "Ride Quality Requirements for Low Speed Routes", was discussed. EOC decided to limit the use of the new special provision to one pilot project, with the incentive pay set less than that for high speed routes since ride quality requirements are lower.

ACTION: The minutes were approved for distribution (attached).

3. Cold-in-Place Recycling Candidate - S. Bower

As a non-standard pavement fix, cold-in-place recycling (CIPR) projects must be approved by EOC. The Southwest Region is proposing a CIPR project near Kalamazoo on I-94BL (C.S. 39121, J.N. 53526) from I-94 to Upjohn Road. The region developed a monitoring plan, which includes a comparison study with a conventional overlay project done in 2000 on M-66 (C.S. 78052, J.N. 45645). The Pavement Committee reviewed the plan and recommends approval of the project.

ACTION: The CPR project is approved. This is the third pilot project approved by EOC. EOC will only be approving a select number of cold-in-place projects until performance evaluations are completed on as-constructed projects.

NOTE: Tom Maki stated that EOC must be the clearinghouse for new issues, protocols, procedures and products before they are incorporated into pilot projects. He announced a subcommittee to review potential submittals to EOC prior to implementation. The committee members are as follows:

Gary Taylor, Chair
John Staton
Glenn Bukoski
Dave Calabrese

Judy Ruszkowski
Carlos Libiran
Thom Davies

4. Pavement Selections - K. Kennedy**A. US-131 New Construction: CS 83033, JN 34682 and 34683**

The construction alternates considered were a flexible bituminous pavement (Alternate 1), and a jointed plain concrete pavement (Alternate 2).

Pavement selection was determined using the procedures outlined in the Pavement Design and Selection Manual. Alternate 1 was approved based on having the lowest Equivalent Uniform Annual Cost. The pavement design and cost analysis summary are as follows:

Alternate 1 New Construction: Flexible Bituminous Pavement

38mm	..... Bituminous Mix 5E3, Top Course (Mainline and Inside Shoulder)
50mm	... Bituminous Mix 4E3, Leveling Course (Mainline and Inside Shoulder)
76mm	..... Bituminous Mix 3E3, Base Course (Mainline and Inside Shoulder)
140mm	..... Bituminous Mix 4C and 3C (Outside Shoulder)
160mm	..... Aggregate Base (184mm Outside Shoulder)
460mm	..... Sand Subbase
100mm	..... Subbase Underdrains
784mm	..... Total Thickness

Present Value Initial Construction Costs \$228,957/directional kilometer

Present Value Maintenance Costs \$56,316/directional kilometer

Equivalent Uniform Annual Cost \$18,240/directional kilometer

B. I-69 Reconstruction: CS 12034, JN 48582

The reconstruction alternates considered were a flexible bituminous pavement (Alternate 1) and a jointed plain concrete pavement (Alternate 2).

Pavement selection was determined using the procedures outlined in the Pavement Design and Selection Manual. Alternate 2 was approved based on having the lowest Equivalent Uniform Annual Cost. The pavement design and cost analysis summary are as follows:

Alternate 2 Reconstruction: Jointed Plain Concrete Pavement (JPCP)

280mm	..... Jointed Plain Concrete Pavement (Mainline) (4.5m jt spacing)
	Freeway Shoulder Option
100mm	..... Open Graded Drainage Course
	Geotextile Separator
150mm	..... Open Graded Underdrains
300mm	..... Sand Subbase
680mm	..... Total Thickness

Present Value Initial Construction Costs \$360,062/directional kilometer

Present Value Initial User Costs \$18,769/directional kilometer

Present Value Maintenance Costs \$59,840/directional kilometer

Equivalent Uniform Annual Cost \$27,469/directional kilometer

5. Aesthetic Policy Implementation - L. Lynwood

The State Transportation Commission passed a policy that aesthetics would be considered in our designs. Lynn is receiving many requests and is reviewing the aesthetic issues. There are no guidelines and some overall direction is needed. Tom Maki noted there is no money programmed to add aesthetics to projects and the Commission is interested in low cost or simple treatments. FHWA would need to approve the use of federal funds. EOC agreed there is a need to develop guidelines and an implementation plan, and to evaluate the fiscal impact.

ACTION: Thom Davies and Paul Miller will co-chair a committee that will draft an implementation plan and a philosophy for aesthetic guidelines. Members of the committee will include Lynn Lynwood, Tom Fudaly, and representatives from Maintenance, Planning and the regions.

6. Survey Manual - B. Dollman-Jersey

The manual was last updated in 1983. The new revised manual is very comprehensive and is in English units. It went through region review and comments were incorporated. It will be added to the web site, and will be available in hard copy and on CD.

ACTION: The 2001 Survey Manual is approved for distribution.

(Signed Copy on File at C&T/Secondary)
Jon W. Reincke, Secretary
Engineering Operations Committee

JWR:kat

Attachment

cc: EOC Members
Region Engineers

G. J. Rosine	R. J. Risser, Jr. (MCPA)	L. Stornant	T. L. Nelson
R. J. Lippert, Jr.	A. C. Milo (MRBA)	J. Ruszkowski	R. D. Till
D. L. Smiley	J. Becsey (MAPA)	C. Libiran	M. Frierson
M. Nystrom (AUC)	D. Hollingsworth (MCA)	G. J. Bukoski	C. W. Whiteside
M. Newman (MAA)	J. Steele (FHWA)	K. Rothwell	T. E. Myers
J. Murner (MRPA)			

**Pavement Committee
December 7, 2000 Meeting
Construction & Technology Division Laboratory**

Attending:

Steve Bower - Chair
Mike Frankhouse
John LaVoy
Larry Galehouse (a)

Dave Smiley - Secretary
Paul Steinman (a)
Robert Ranck, Jr.
Ryan Rizzo - FHWA

Rich Ostrowski (a)
Gonzalo Puente (a)

(a) = absent

NOTES: Others attending were Curtis Bleech - C&T, Carlos Libiran - Design, Andy Ilieff - Maintenance, and Tom Fudaly - FHWA.

OLD BUSINESS

There was no regular meeting held in November. Committee members approved the October meeting notes by e-mail and they were accepted by EOC at their November 7th meeting.

#00-11D SP for "Controlling Uniformity in Bituminous Pavement During Paving Operations"

Mike Frankhouse reviewed a special provision that was jointly developed with MAPA to reduce the occurrence of segregation during paving operations. Segregation will be verified using a computer software analysis procedure (MBITSEG2) that was recently developed by Michigan State University as part of a research project. The SP will initially be used with projects let in Feb./Mar. 2001 that have the SP requirement for sampling behind the paver. The Bituminous Unit will have training classes this winter on recognizing and preventing segregation.

#00-17D Modification to 34R Underdrain Backfill

The Michigan Aggregates Association (MAA) has reviewed and accepted the special provision for alternate gradations for underdrain backfill. Dave Smiley will forward the SP to Rich Ostrowski for possible use on some trial projects in the Metro Region next year.

#00-20P Cold-in-Place Recycling for I-94BL

The Kalamazoo TSC is proposing a cold-in-place recycling project (CS 39121-53526) for 2001 on I-94BL from M-96 north to Olmstead Road. The committee reviewed the monitoring plan for the project. Several questions need clarifying before committee approval can be given. Steve Bower will contact the TSC about them.

In the future to assure that all minimum information is included in a monitoring plan, a standard format will be developed for Region/TSC use.

NEW BUSINESS

#00-22D/C Paved Outside Shoulder Widths

Carlos Libiran and Tom Fudaly attended the meeting to get committee input regarding the right method to use to achieve a minimum 10' paved outside shoulder width to meet 4R freeway standards. Typical shoulder construction requires an additional one foot wide gravel strip beyond the paved shoulder to the finished shoulder point. The cross sections in R-110 for new and reconstruction already depict the proper widths with the additional one foot of gravel.

The issue exists on some rehabilitation projects where only a 9' width is being constructed. Two options exist, unless a design exception is approved: (1) the entire existing useable 10' (9+1) shoulder width is paved to the finished shoulder point, or (2) the shoulder is widened to maintain the one foot of gravel beyond the 10' paved width. The committee strongly favors the widening option to maintain the one foot of gravel. The one foot of gravel provides needed stability and support for the edge of paved shoulder and reduces slope erosion.

#00-23D Ride Quality Requirements for Low Speed Routes

John LaVoy reviewed a new special provision for ride quality requirements on low speed routes. The SP was developed after repeated discussions among members (department and industry) of the ride committee to resolve concerns regarding the appropriate levels of ride that can be (or should be) achieved for low speed routes in urban areas. The initial definition for low speed is ≤ 45 mph. The most controversial item is where to set appropriate acceptance and incentive levels for ride. The SP will be used on selective projects to gain experience on the threshold values. Results will be monitored by the Technical Sub-Committee.

Notes:

C = work on item is completed

P = item is still pending additional committee action

D= discussion/information item

DLS: C&T 12-26-00 accepted